Precalculus Chapter 2: Quiz (2.1 – 2.3) Show work for problems: 4, 7, 10, 12, 13, 14

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| **Instructor:** | **Miss Lewis** | **Name:** |  |
| **Class:** | **Precalculus** | **Date:** |  |

Read each question carefully and select the best answer choice. Mark only on your own paper or the bubble sheet. You are required to show all of your work for all starred (\*\*) problems. You will not receive credit for problems that are starred unless you show your work.

1. **Find the maximum point on the graph of.**
2. None of these
3. **Find the quadratic function whose graph opens upward and has x-intercepts at and**
4. None of these
5. **Find the number of units that produces a maximum revenue, *R* = 95x – 0.1x2, where *R* is the total revenue in dollars and *x* is the number of units sold.**
6. 716
7. 475
8. 371
9. 550
10. None of these
11. **Divide by synthetic division: .**
12. None of these
13. **Determine the left and right behavior of the graph: .**
14. Up to the left, down to the right
15. Down to the left, up to the right
16. Up to the left, up to the right
17. Down to the left, down to the right
18. None of these
19. **Find a polynomial function with zeros:**
20. None of these
21. **Find all the real zeros of the polynomial function: .**
22. 4, 1
23. 1, 0, 4
24. None of these
25. **Find the quadratic function that has a maximum point at and passes through**
26. None of these
27. **Use the Intermediate Value Theorem to estimate the real zero in the interval [1, 2]:**
28. Between 1.5 and 1.6
29. Between 1. 6 and 1.7
30. Between 1.7 and 1.8
31. Between 1.8 and 1.9
32. None of these
33. **Write in the form y = a(x – h) 2 + k: y = 3x2 + 12x + 17.**
34. y = (x + 2)2 +
35. y = 3(x + 2)2 + 21
36. y = (x + 2)2 +
37. y = 3(x + 2)2 +
38. None of these
39. **The function has a zero of 2 with multiplicity 3. We know:**
40. since 3 is an odd number, the graph touches but does not cross the x-axis.
41. since 3 is an odd number, the graph crosses the x-axis.
42. since 2 is an even number, the graph touches but does not cross the x-axis.
43. since 2 is an even number, the graph crosses the x-axis.
44. None of these
45. **Use synthetic division to find**
46. None of these
47. **A rectangular room has a volume of cubic feet. The height of the room is Find the algebraic expression for the number of square feet of floor space in the room.**
48. None of these
49. **Simplify the rational expression: .**
50. None of these